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10/572,785	03/21/2006	Jochen Wehner	WEHNER-2 PCT	9559
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COLLARD & ROE, P.C.			MCCULLLEY, MEGAN CASSANDRA	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/572,785	WEHNER, JOCHEN
	Examiner Megan McCulley	Art Unit 1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 13 October 2009.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 2-19 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 2-19 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

**Note**

The claim modifier of claim 19 is wrong. It says "previously presented" and it should read "currently amended".

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2, 3, and 5-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (U.S. Pat. 6,046,297) in view of Sondhe et al. (U.S. Pat. 5,340,652).

Regarding claims 12, 15, 17 and 18: Rosenberg et al. teaches mixing a polyol component comprising a low molecular weight polyol (col. 4 lines 32-39), such as tetraethylene glycol (col. 4 line 37), which has a calculated molecular weight of 194 g/mol and a calculated hydroxyl group concentration of 10.3 mol OH/kg polyol., which fall within the claimed ranges, a high molecular weight polyol (col. 3 lines 60-67) of the general formula  $\text{HO}(\text{RO})_n\text{H}$  wherein R is an alkylene radical (col. 4 lines 1-9). This formula shows there are 2 hydroxyl groups, and with the molecular weight given to be 500-3000 (col. 3 line 63), the calculated hydroxyl group concentration is 0.67-4 mol OH/kg polyol, which overlap the claimed ranges. Further, a diisocyanate (col. 3 line 38) is mixed, which is a polyisocyanate. Rosenberg et al. further teaches adding 4,4'-

methylene-bis-(3-chloro-2,6-diethylaniline) (MCDEA) (col. 1 line 64 and col. 5 line 63), which is a light resistant aromatic amine. At least partial curing is taught (col. 6 line 5).

Rosenberg et al. does not teach bringing the mixture into contact with a synthetic resin not cured or not completely cured. However, Sondhe et al. teaches mixing (col. 13 line 31) a composition comprising an aromatic amine (col. 3 line 3), and a polyol component and a polyisocyanate component (abstract). Sondhe et al. also teaches that upon mixing, the urethane system will immediately commence reaction (col. 13 lines 33-35), therefore it is at least partially cured. Also disclosed is application to an epoxy, which is not fully cured (col. 3 lines 59-62). Sondhe et al. and Rosenberg et al. are analogous art because they are both concerned with the same field of endeavor, namely polyurethane compositions cured with aromatic amines. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the composition of Rosenberg et al. with the process of Sondhe et al. and would have been motivated to do so for such desirable properties as longer pour life, reduced tendency to crack, and reduced presence of toxic free toluene diisocyanate monomers, as evidenced by Rosenberg et al. (col. 1 lines 14-16).

The process of the above combination would implicitly yield a synthetic resin composite material.

Regarding claim 2: While Rosenberg et al. does not directly teach that the gel coat at 23°C displays an elongation at break (measured as per DIN EN ISO 527) of at least 3%, since all of the components are present in the composition it is inherent that the composition would have these properties. If it is applicants' position that this would

not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with these properties.

Regarding claim 3: Rosenberg et al. does not teach the polyurethane gel coat is not completely cured. However, at the time of the invention a person having ordinary skill in the art would have found it obvious to not completely cure the polyurethane gel coat based on the teaching of Sondhe et al. and would have been motivated to do so since this would allow the urethane to bleed and intermingle with the epoxy in order to form chemically fused layers, as evidenced by Sondhe et al. (col. 3 lines 57-68).

Regarding claims 5, 6, 7, and 8: Rosenberg et al. teaches 4,4'-methylene-bis-(3-chloro-2,6-diethylaniline) (MCDEA) (col. 1 line 64 and col. 5 line 63), which is a 4,4'-methylenebis (2,6-diethyl-aniline). As evidenced by paragraphs 60-63 of the Pre-Grant Publication of the instant application, this particular aromatic amine when subjected to the limitations found in claims 5 and 6 of the instant application inherently gives the desired gel time and color shade change. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with these properties.

Regarding claim 9: Rosenberg et al. teaches the basic claimed composition as set forth above. Not disclosed is the amount of the aromatic amine in the polyol

component. However, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. See *In re Aller*, 105 USPQ 233 and MPEP 2144.05. At the time of the invention a person having ordinary skill in the art would have found it obvious to optimize the amount of the aromatic amine and would have been motivated to do so for such desirable properties as completely reacted TDI monomers, as evidenced by Rosenberg et al. (col. 2 lines 8-14) since they are toxic. A *prima facie* case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. See *In re Boesch and Slaney*, 205 USPQ 215.

Regarding claims 10 and 11: Rosenberg et al. teaches the basic claimed composition as set forth above. Not disclosed is the amount of the low molecular weight polyol. However, this is a result effective variable that can be optimized. At the time of the invention a person having ordinary skill in the art would have found it obvious to optimize the amount of the low molecular weight polyol and would have been motivated to do so for such desirable properties as sufficient chain extending of the prepolymer to form a polyurethane elastomer to form an easily applicable polyurethane elastomer with the desired viscosity.

Regarding claim 13: Rosenberg et al. teaches a low molecular weight polyol which is tetraethylene glycol (col. 4 line 37), which is a polyether polyol.

Regarding claim 14: Rosenberg et al. teaches the high molecular weight polyol can be a polyether polyol or a polyester polyol (col. 3 lines 60-61

Regarding claim 16: Rosenberg et al. teaches the basic claimed composition as set forth above. Not disclosed is the amount of the high molecular weight polyol. However, this is a result effective variable that can be optimized. At the time of the invention a person having ordinary skill in the art would have found it obvious to optimize the amount of the high molecular weight polyol and would have been motivated to do so for such desirable properties as sufficient strength in the cured product.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (U.S. Pat. 6,046,297) in view of Sondhe et al. (U.S. Pat. 5,340,652) as applied to claim 17 and in further view of Motsinger et al. (U.S. Pat. 3,217,536).

Regarding claim 4: Rosenberg et al. teaches the basic process as set forth above. Not disclosed is the synthetic resin is a reinforced contains reinforcing materials. However, Motsinger et al. teaches a polyurethane coating on an epoxy resin laminated with fiberglass (col. 3 line 66-col. 4 line 1). Rosenberg et al. and Motsinger et al. are analogous art because they are both concerned with the same field of endeavor, namely products coated with epoxy resins and polyurethanes. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the fiberglass laminated epoxy of Motsinger et al. with the composition of Rosenberg et al. and would have been motivated to do so for such desirable properties as to provide strength and weather protection, as evidenced by Motsinger et al. (col. 4 lines 1-14).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (U.S. Pat. 6,046,297) in view of Sondhe et al. (U.S. Pat. 5,340,652) as applied to claim 18 and in further view of Chapin (U.S. Pat. 4,089,215).

Regarding claim 19: Rosenberg et al. teaches the basic material as set forth above. Not disclosed is that it is part of a rotor vane. However, Chapin teaches a similar material on a rotor vane (abstract, col. 5 lines 45-55). The use of the rotor vane in a wind power plant is intended use and carries little patentable weight (see MPEP 2111.02 II). Rosenberg et al. and Chapin are analogous art since they are both concerned with the same field of endeavor, namely polyurethane products. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the use of Chapin with the composition of Rosenberg et al. and would have been motivated to do so since a rotor vane needs to have low inertia to provide a prompt and accurate response to changes in rate of air flow, as evidenced by Chapin (col. 5 lines 45-55).

#### ***Response to Arguments***

Applicant's arguments and declaration filed 10/13/2009 have been fully considered but they are not persuasive.

A) Applicant's argument that "because the polyol component A) is specified as containing A1), A2), and A3), these items must be mixed before they are mixed with the polyisocyanate component B)" is not persuasive. There is no limitation found in the claims as amended that requires mixing component A) separately first before mixing

with component B). Further, there is no limitation to what order the components are added or mixed. The process steps of independent claim 17 comprise mixing component A) and component B), partial curing, and bringing into contact with synthetic resin. The components being mixed must include a low molecular weight polyol, a higher molecular weight polyol, an aromatic amine and a polyisocyanate. Rosenberg et al. teaches mixing component A) and component B) and partial curing. Sondhe et al. teaches bringing the mixture in contact with a synthetic resin, as set forth in the above rejection. Should the claims be amended to recite that components A1), A2) and A3) are first mixed and then component A) is mixed with component B), then the claims would be considered to have the requirement to first mix component A) separately before mixing with component B). Further, the claim language recites "comprising" which is open to have other components or steps. While Rosenberg et al. teaches forming a prepolymer of the polyols and polyisocyanate before adding in the aromatic amine, the comprising language means this does not teach away from the claimed process. The prepolymer of Rosenberg et al. has a low molecular weight polyol component, a higher molecular weight component and a polyisocyanate component. Mixed with it is the aromatic amine. In the mixture the polyol component A) is present and the polyisocyanate component B) is present since both components are components of the prepolymer and curative.

B) Applicant's argument that the polyurethane of Rosenberg et al. does not need to have the specific properties needed by a gel coat is not persuasive. First, the properties are not claim limitations. Second, even if they were claimed, there is no

evidence supplied that the polyurethane of Rosenberg et al. would not have the properties or that the polyurethane could not work for the intended use. Argument does not replace evidence where evidence is necessary (see MPEP 2145 I). It would be the position of the Office, if these properties where claimed, that they are latent properties not recognized by the prior art (see MPEP 2145 II). Based on the broad claim language of the method discussed in part A) above, the polyurethane of Rosenberg et al. meets the limitations of the instant polyurethane and therefore must have the same properties.

C) Applicant's argument that Sondhe et al. does not teach the desired order of mixing is not persuasive for the same reasons above in part A) concerning Rosenberg et al.

D) In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, at the time of the invention a person having ordinary skill in the art would have found it obvious to combine the composition of Rosenberg et al. with the process of Sondhe et al. and would have been motivated to do so for such desirable properties as longer pour life, reduced tendency to crack, and reduced presence of toxic free toluene diisocyanate monomers, as evidenced by Rosenberg et al. (col. 1 lines 14-16).

E) Applicant's argument that none of the references disclose the process of claim 4 is not persuasive. The combination of Rosenberg et al. with Sondhe et al. and Motsinger et al. teaches the process of claim 4 as set forth in the rejection above. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

F) Applicant's argument (from declaration) that Rosenberg et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Rosenberg et al. is in the field of applicant's endeavor in that the reference uses a low molecular weight polyol, a higher molecular weight polyol, an aromatic amine and a polyisocyanate to make a polyurethane.

G) The comparative example found in the declaration in which the prepolymers of Rosenberg et al. cannot be reacted with the aromatic amine is not persuasive. First, Rosenberg et al. is able to react the prepolymers with the aromatic amine, teaching a person having ordinary skill in the art that it is possible. Further, as set forth in part A above, the polyurethane of Rosenberg et al. reads on the polyurethane of the instant method. Should the claims be amended to recite the desired order of adding and mixing, this would not be the case.

H) Applicant's argument (from declaration) that to use Sondhe et al. results in picking and choosing is not persuasive. Rosenberg et al. teaches using the claimed aromatic amine. Motivation is given in Rosenberg et al. (see description of related art and brief summary of the invention) for using the claimed aromatic amine. It is not germane that the secondary reference uses a different amine since the claimed amine is disclosed in the prior art. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

I) In response to applicant's argument that Motsinger et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Motsinger et al. is analogous art because it is concerned with the same field of endeavor, namely products coated with epoxy resins and polyurethanes.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Megan McCulley whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Thursday 7:30-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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